



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,653	10/15/2003	Chuan-Pei Yu	AUOP0022USA	2652

27765 7590 06/14/2005

NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

HAN, JASON

ART UNIT PAPER NUMBER

2875

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,653

Applicant(s)

YU ET AL.

Examiner

Jason M. Han

Art Unit

2875

pm

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6,9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,9 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 1-3, 5-6, 9, and 11-16 have been considered but are moot in view of the new ground(s) of rejection.
-

The following claims have been rejected in light of the specification, but rendered the broadest interpretation as construed by the examiner [MPEP 2111].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-6, 9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. (U.S. Patent 6523966) in view of Kitazawa et al. (U.S. Patent 5070431).
3. With regard to Claims 1, 3, and 14, Satoh discloses a backlight module including:
 - A plurality of point light source generators [Figures 4-5: (23)];
 - A diffusing plate [Figures 3-5: (20)] installed atop the plurality of point light source generators for scattering the light generated by the plurality of point light source generators; and

- A plurality of scattering apertures [Figures 4-5: (55)] installed on the surface of the diffusing plate opposite to the plurality of point light source generators.

Satoh does not specifically teach the structure of the plurality of scattering apertures, wherein a scattering pattern/plurality of scattering particles (re: Claims 3, 14) is disposed over the inner wall of at least one/each scattering aperture; nor does Satoh specifically teach a diffusing sheet installed above the diffusing plate for diffusing the light emitted from the diffusing plate.

Kitazawa teaches various principles including: (1) a scattering pattern/plurality of scattering particles [Figure 3: (13a)] disposed over a surface to randomly scatter and diffuse illumination within a backlit assembly [Column 3, Lines 12-15]; (2) a diffusion sheet [Figures 2-3: (13)] installed above a diffusing plate [Figures 2-3: (12)] for further distributing light emitted from said plate.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the backlight module of Satoh to incorporate the scattering pattern/plurality of scattering particles on an inside surface of at least one aperture, as well as an additional diffusing sheet disposed over the diffusing plate, as taught by Kitazawa, in order to ensure and enhance uniformity of the illumination.

4. With regards to Claim 2, Satoh in view of Kitazawa discloses the claimed invention as cited above. In addition, Satoh teaches the point light source generators being light emitting diodes (LEDs) [Column 13, Line 40].
5. With regards to Claim 5, Satoh in view of Kitazawa discloses the claimed invention as cited above. In addition, Satoh teaches the number of scattering apertures

Art Unit: 2875

[Figure 5: (55)] corresponding to the number of point light source generators [Figure 5: (23)], and the position of each scattering aperture corresponding to the position of each point light source generator, as broadly interpreted by the examiner [MPEP 2111].

6. With regard to Claims 6 and 9, Satoh in view of Kitazawa discloses the claimed invention as cited above. Though Satoh nor Kitazawa specifically teaches each of the plurality of scattering apertures being circular, rectangular, or trapezoidal in shape; nor the plurality of scattering patterns including a plurality of V- or arc- trenches, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate each of the scattering apertures/patterns to a desired shape, since it has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. In this case, it is obvious that the shape of said scattering apertures/plurality of scattering patterns could provide a desired optical effect on the illumination.

7. Claims 11-12 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. (U.S. Patent 6523966) in view of Kitazawa et al. (U.S. Patent 5070431) as applied to Claims 1 and 14, respectively above, and further in view of Pelka et al. (U.S. Patent 6134092).

8. With regard to Claims 11-12, Satoh in view of Kitazawa discloses the claimed invention as cited above, but does not specifically teach at least one prism sheet installed above the diffusing sheet for uniforming the light diffused by said sheet (re:

Art Unit: 2875

Claim 11); nor teaches at least one brightness enhancement film installed above the diffusing plate for enhancing brightness of the backlight module (re: Claim 12).

Pelka teaches at least one prism sheet [Figure 12: (108); Column 8, Line 3] installed above a diffusing sheet [Figure 12: (110)] to uniform the light diffused by the diffusing sheet, as well as at least one brightness enhancement film [Figure 12: (108); Column 8, Lines 4-7] installed above the diffusing plate for enhancing the brightness of the backlight module.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the backlight module of Satoh in view of Kitazawa to incorporate the prism sheet and brightness enhancement film of Pelka, so as to improve efficiency via uniform illumination and improved brightness.

9. With regard to Claims 15-16, Satoh in view of Kitazawa discloses the claimed invention as cited above, but does not specifically teach the scattering patterns disposed over the inner walls being the same pattern (re: Claim 15), nor different patterns (re: Claim 16).

Pelka teaches scattering patterns disposed over inner walls implicitly being either the same pattern (e.g., same coating) or different pattern (e.g., various coatings) [Figures 3-4: (65); Column 4, Lines 37-54].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the backlight module of Satoh in view of Kitazawa to incorporate the various (e.g., same or different) scattering patterns disposed over the inner walls, as taught by Pelka, in order to achieve a desired optical effect on the illumination.

Art Unit: 2875

10. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitazawa et al. (U.S. Patent 5070431) in view of Baron (U.S. Patent 4843381).

11. With regards to Claim 1, Kitazawa discloses a backlight module including:

- A plurality of point light source generators [Figures 2-3: (15, 16)];
- A diffusing plate [Figure 3: (12, 13)] installed atop the plurality of point light source generators for scattering the light generated by the plurality of point light source generators;
- A plurality of scattering apertures [Figure 3: (12a, 13a)] installed on the surface of the diffusing plate opposite to the plurality of point light source generators, wherein a scattering pattern is disposed over the inner wall of at least one scattering aperture [Figure 3: (13a)].

Kitazawa does not specifically teach an additional diffusing sheet installed above the diffusing plate for diffusing the light emitted from the diffusing plate.

Baron teaches a first diffusing plate [Figure 1: (14)] disposed above a light source, as well as a second diffuser sheet [Figure 1: (18)] installed above the diffusing plate.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the backlight module of Kitazawa to incorporate the second additional diffuser sheet of Baron, in order to further distribute and evenly spread the illumination.

12. With regards to Claim 13, Kitazawa in view of Baron discloses the claimed invention as cited above. In addition, Kitazawa teaches a reflecting surface (plates are

Art Unit: 2875

commonly known within the art) [Figure 3: (12g); Column 5, Lines 46-56] installed under the plurality of point light source generators for reflecting the light generated by the plurality of point light source generators to the diffusing plate.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

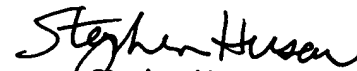
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

Art Unit: 2875

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (6/10/2005)


Stephen Husar
Primary Examiner